

We claim:

1. A method for synchronizing stored content with broadcast content, the method comprising:

5 storing event content in a first receiver, said event content associated with an event application and having an associated event time;

receiving from a source external to the first receiver a reference time;

receiving broadcast content at the first receiver concurrently with receiving the reference time;

10 associating within the first receiver the reference time with the event time; and

triggering the event application on the first receiver responsive to a determined reference time.

2. The method of claim 1, further including the step of storing an index list  
15 comprising a plurality of event times associated with a plurality of event applications and advancing stepwise through the index list responsive to the step of associating the reference time with the event time to enable sequential operation of the event applications on the first receiver in conjunction with the broadcast content.

20 3. The method of claim 1, further including the step of receiving event content for storage in the first receiver in a first data stream in advance of receiving broadcast content contained in a second data stream, where the first data stream is different from the second.

4. The method of claim 1, further including the step of receiving event content for  
25 storage in the first receiver in a first data stream concurrent with receiving broadcast content in a second data stream, where the first data stream is different from the second data stream.

5. The method of claim 1, wherein the event times are listed as a value from a zero reference time point, the method further including the step of changing the zero reference time  
30 point over a course of a broadcast to accommodate discontinuities in the broadcast content from an original broadcast content source.

6. The method of claim 5, wherein the discontinuities result from commercials inserted within the original broadcast content source.

7. The method of claim 1, wherein the reference time is received from an external source derived from a data stream independent from the broadcast content.

5 8. The method of claim 7, wherein the external source is a GPS satellite system.

9. The method of claim 7, wherein the external source is a coupled to the first receiver over a modem line.

10 10. The method of claim 1, wherein the reference time is derived from a data stream including the broadcast content.

11. The method of claim 10, further including the steps of:  
storing reference frames at the first receiver; and  
15 comparing image frames of the broadcast content data with the reference frames to synchronize a local clock at the first receiver.

12. The method of claim 10, further including the steps of:  
receiving the broadcast content at a second receiver; and  
20 generating a reference time of receipt of the broadcast content at the second receiver and using the generated reference time to create a reference time for the first receiver.

13. The method of claim 1, wherein the first receiver is a set top box.

25 14. A set top box adapted to receive broadcast content via a broadcast signal and a reference time signal and comprising:  
a memory within the set top box;  
an index list stored within the set top box memory and queried by the set top box responsive to the reference time signal, said index list including event triggers indexed with the  
30 program content and stored with the set top box memory, and event times indexed to a reference time at which the events are set to trigger; and  
means for triggering the events responsive to the reference time.

15. A method for synchronizing displayable data with a broadcast event in real time, comprising the steps of:  
receiving from an external source a reference time; and  
activating data events at an appropriate reference time within the broadcast event.

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